

Microwave Radiometer for Aviation Safety, Phase I

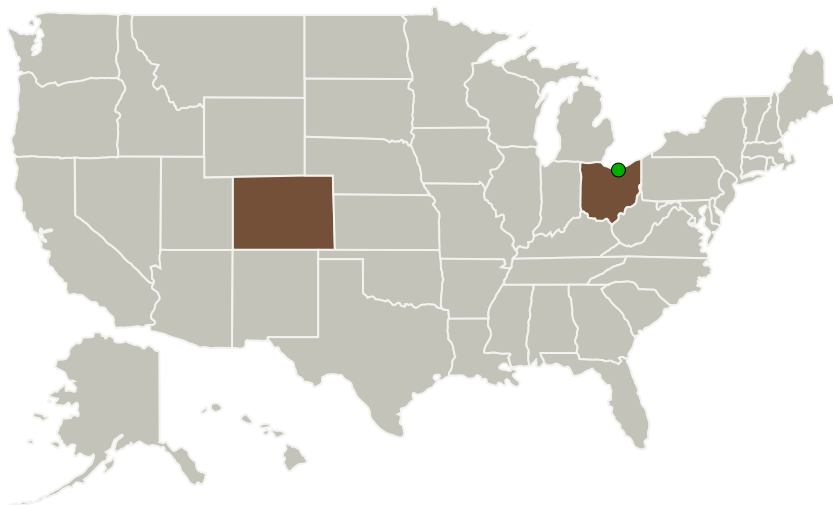
Completed Technology Project (2010 - 2010)




Project Introduction

SBIR Phase I Project proposes a new passive microwave airborne sensor for in flight icing hazard detection, Microwave Radiometer for Aviation Safety. A feasibility study of a relatively inexpensive, small in size, robust, energy efficient instrument with reliable calibration, easy to use, and with minimal maintenance requirement is proposed. Extensive radiative transfer modeling will be carried out. The results of modeling will be used to optimize instrument design, parameters such as frequency of operation, individual channels polarizations, scene sampling strategy (scanning mode), antennae beamwidths, and potential use of auxiliary data will be evaluated. Phase I objective is a preliminary three dimensional model of the instrument.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
Boulder Environmental Sciences and Technology	Lead Organization	Industry	Boulder, Colorado
 Glenn Research Center(GRC)	Supporting Organization	NASA Center	Cleveland, Ohio



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Primary U.S. Work Locations

Colorado

Ohio

Project Transitions

 **January 2010:** Project Start

 **July 2010:** Closed out

Closeout Documentation:

- Final Summary Chart(<https://techport.nasa.gov/file/139230>)

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Organization:

Boulder Environmental Sciences and Technology

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

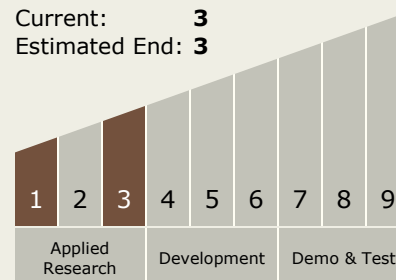
Carlos Torrez

Principal Investigator:

Marian Klein

Technology Maturity (TRL)

Start: **1**
Current: **3**
Estimated End: **3**



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Technology Areas

Primary:

- TX08 Sensors and Instruments
 - └ TX08.1 Remote Sensing Instruments/Sensors
 - └ TX08.1.4 Microwave, Millimeter-, and Submillimeter-Waves

Target Destinations

Earth, The Moon, Others Inside the Solar System, Outside the Solar System, The Sun, Mars